

Applic. No.: 10/023,152

Amdt. Dated December 23, 2005

Reply to Office action of September 27, 2005

REMARKS/ARGUMENTS

Reconsideration of the application is requested.

Claims 1-14 remain in the application.

In item 2 on pages 2-4 of the above-mentioned Office action, claims 1-6 and 8 have been rejected as being unpatentable over Davis (US 5,566,175) in view of Kappler et al. (US 6,064,677) under 35 U.S.C. § 103(a).

In item 3 on page 4 of the above-mentioned Office action, claim 7 has been rejected as being unpatentable over Davis in view of Kappler et al. and further in view of Caldara et al. (US 5,822,540) under 35 U.S.C. § 103(a).

In item 4 on pages 5-8 of the above-mentioned Office action, claims 9-12 and 14 have been rejected as being unpatentable over Davis in view of Kappler et al. and further in view of Raj et al. (US 6,628,649) under 35 U.S.C. § 103(a).

In item 5 on page 8 of the above-mentioned Office action, claim 13 has been rejected as being unpatentable over Davis in view of Kappler et al. and further in view of Raj et al. and further in view of Caldara et al. under 35 U.S.C. § 103(a).

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As will be explained below, it is believed that the claims were patentable over the cited art in their original form and the claims have, therefore, not been amended to overcome the references.

Before discussing the prior art in detail, it is believed that a brief review of the invention as claimed, would be helpful.

Claims 1, 8, and 11 call for, inter alia:

assigning an output time at which a data packet that is located in the queue will be output from the network node, in dependence on a result of the comparing step.

The Examiner has already admitted that Davis does not disclose assigning an output time at which a data packet being located in a queue is to be output from a network node, the time instant depending on a result of a comparison between a predetermined current buffer memory fill level with a predetermined lower limit for a buffer memory fill level.

This feature is also not shown by Kappler et al. Kappler et al. disclose in section C scheduling for real time and non-real time connections (column 4, line 10), wherein packets are ordered (sorted) by virtual time stamps (see column 5, first, second and third paragraphs). The virtual time stamps

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are computed from a maximum of (a) the current virtual time for the VC, and (b) either of i) the arrival time of the cell or ii) the system virtual time (see column 5, formula 1 and lines 21 to 27 and column 5, lines 50 to 53).

Clearly, the virtual time stamps taught by Kappler et al. neither depend nor are computed depending on any buffer fill level.

Moreover, the virtual time stamps taught by Kappler et al. do not determine time instants at which data packets are to be transmitted. As disclosed in column 5, lines 5 to 8 of Kappler et al., the virtual time stamps are used to sort the data packets. Moreover, the virtual time stamps are based on a virtual (and thus non-existing) system time, which does not coincide with a real system time determining real time instants at which to process data. Therefore, the virtual time stamps cannot determine any time instant at which a data packet is to be transmitted.

The Examiner has stated that a person skilled in the art would arrive at the subject matter of the invention of the instant application when modifying the system of Davis by including assigning a time stamp using the formula disclosed in column 5 of Kappler et al. This assessment is respectfully traversed.

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Firstly, a person skilled in the art has no motivation to modify the system taught by Davis in order to determine the output times of data packets.

Davis teaches employing a single FIFO (First-In-First-Out buffer) having three threshold levels in order to flatten data bursts by controlling a data rate (see column 4, lines 37-40 and 24-30). A first threshold T1 is set to correspond to a low level of data in the buffer. If the threshold level T1 is exceeded, a request is sent into the network in order to negotiate a low data rate R1 (see column 3, lines 22 to 27). If the incoming data rate is higher than R1, then the buffer will reach a threshold T2. When this occurs, another request is sent for a higher bit rate R2, which is in excess of a peak rate that can be achieved (see column 3, lines 33 to 42). At data rate R2, the buffer will start to empty. When the buffer becomes empty (i.e. when a threshold T3 is reached), a clear down message is sent to the network to clear down the reserved bandwidth to the default rate (see column 3, fourth paragraph).

Clearly, a knowledge of a time instant at which each data packet is to be transmitted is irrelevant for flattening the data bursts according to Davis. Thus, a person skilled in the

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art would not increase the system's complexity in order to derive information that is useless for performing the method taught by Davis.

Secondly, a person skilled in the art would not consider employing the virtual time stamps taught by Kappler et al. in the system taught by Davis in order to sort the packets to be transmitted using virtual time stamps.

Davis teaches employing the First-In-First-Out-buffer (FIFO) for storing data to be transmitted (see, for example, column 4, line 40). One of the characteristic features of FIFO buffers is that they already determine the order of transmission of data packets, namely "first-in-first-out."

Furthermore, Davis requires in column 4, lines 19 to 21, that the system shall also be used in circumstances where there is no knowledge of the application layer in terms of the beginnings and ends of bursts. However, providing the virtual time stamps taught by Kappler et al. would violate this requirement since at least a knowledge of the beginnings (i.e. arrival time) of bursts is required for computing the virtual time stamps taught by Kappler et al. In order to determine the arrival time, an interaction with the application layer is necessary which also is explicitly excluded by Davis.

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Even if a person skilled in the art would combine Davis and Kappler et al., he or she would not arrive at the subject matter of the invention of the instant application since the virtual time stamps taught by Kappler et al. are not determined in dependency on any buffer fill level. Moreover, the virtual time stamps do not determine any time instant at which to transmit a data packet.

It is accordingly believed to be clear that none of the references, whether taken alone or in any combination, either show or suggest the features of claims 1, 8, and 11. Claims 1, 8, and 11 are, therefore, believed to be patentable over the art and since all of the dependent claims are ultimately dependent on claims 1, 8, or 11, they are believed to be patentable as well.

In view of the foregoing, reconsideration and allowance of claims 1-14 are solicited.

In the event the Examiner should still find any of the claims to be unpatentable, counsel would appreciate a telephone call so that, if possible, patentable language can be worked out.

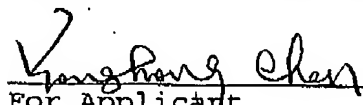
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If an extension of time for this paper is required, petition for extension is herewith made. Please charge any fees which might be due with respect to 37 CFR Sections 1.16 and 1.17 to the Deposit Account of Lerner and Greenberg, P.A., No. 12-1099.

Respectfully submitted,


For Applicant

Yonghong Chen
Reg. No. 56,150

YC

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Lerner and Greenberg, P.A.
Post Office Box 2480
Hollywood, FL 33022-2480
Tel: (954) 925-1100
Fax: (954) 925-1101